

REMARKS

With this amendment, Claims 39-62 are pending in this application.

In response to the office action, claims 39 and 52 were amended.

Rejection of Claims 39, 43-44, 46-47, 51-53, and 57-59 under 35 U.S.C. 102(e) as being anticipated by Ogier et al., U.S. Patent No. 6,845,091:

Applicant respectfully requests reconsideration of the rejection of Claims 39, 43-44, 46-47, 51-53, and 57-59 under 35 U.S.C. 102(e) as being anticipated by Ogier et al., U.S. Patent No. 6,845,091 as herein amended.

Applicant respectfully submits that Ogier et al., U.S. Patent No. 6,845,091 does not describe nor anticipate Applicant's invention as claimed in Independent claims 39 and 52 as herein amended. Claims 39 and 52 have been amended to clarify that "in the active and relay state, a node receives data packets addressed to the node and transmits data packets sourced by the node, and further wherein the node receives and transmits a relay of data packets addressed to at least one other node," and that "in the active and non-relay state a node receives data packets addressed to the node and transmits packets sourced by the node, and further wherein the node does not relay data packets address to any other node." Support for this amendment can be found in paragraphs [0022] to [0027] of Applicant's original specification.

Ogier et al., column 29 lines 19 & 20, describes "The current state of the link to neighbor node B, which can be "heard", "symmetric", or "lost"." Ogier et al column 29 lines 31 to 40 describe three possible states of a neighbor node B have the following meaning at node A:

"Heard": A complete HELLO message was received from neighbor node B within the last K*HELLO_INTERVAL seconds, but it is unknown whether neighbor node B can hear node A.

"Symmetric": Nodes A and B can hear each other.

"Lost": No complete HELLO message has been received from neighbor node B within the last K*HELLO_INTERVAL seconds.

Applicant respectfully disagrees with the contention in the Office Action, that the states described in Ogier equate to the states claimed in Claims 39 and 52. Specifically, the Office Action equates the states from Ogier to our states as follows:

Lost off state
Heard active, non-relay
Symmetric active, relay

Applicant respectfully disagrees with the interpretation that the "Heard" state is equivalent to the "active, non-relay" state. As herein amended, Claims 39 and 52 describe that in the "active, non-relay" state, the node will still participate in the network, but only for sending and receiving it's own traffic. The "active" part describes network participation, not the functional state of the node. And the "non-relay" part says it can not/will not relay traffic for other nodes. Ogier's "Heard" state does not define the equivalent state. The definition for the "Heard" state in Ogier says "it is unknown whether neighbor node B can hear node A". As the Office Action states: "it may not be able to hear it's neighboring node". This presents three possibilities:

1. Node B can not hear node A, and A-B is the only available link.
2. Node B can not hear node A, but an alternate link is available for return communication from A to B.
3. Node B can hear node A. This is a transitory condition that will become the "Symmetric" state, since B must soon hear node A's Hello message. In the interim, Node B will operate either as 1 or 2, above.

For #1, while Node B is functional and not relaying data, it is not active in the network because it cannot receive it's own data. So the equivalent state would be "not active, not relay", which is functionally the same as our "off" state. Case #1 describes Node B that is functional, but not active in the network, since it cannot receive any traffic. It cannot receive it's own traffic. And since it cannot receive any other traffic, there is no traffic to relay either. So the equivalent state would be "not active, not relay", which is most similar to our "off" state.

Case #2 describes Node B that is active in the network, since both a B-to-A and A-to-B links exist. So Node B can both send and receive traffic. But there is nothing in the state information to differentiate between types of traffic, so it will both send and receive it's own traffic as well as send and receive other traffic (relay). So the equivalent state is "active, relay".

Therefore, since Ogier et al does not describe nor anticipate all the elements of amended Claims 39 and 52, Applicant respectfully submits that Claims 39 and 52 are allowable over the cited art.

Regarding Claims 43-44, 46-47, 51, 53, and 57-59, Applicants submit that Claims 43-44, 46-47, 51, 53, and 57-59 are allowable over the cited references based on their dependencies upon claims 39 and 52 which claims were shown to be allowable above. In addition, Applicants submit that claims 43-44, 46-47, 51, 53, and 57-59 are also independently patentable because they include limitations not taught or suggested by the cited reference.

Therefore, since Claims 39, 43-44, 46-47, 51-53, and 57-59 recite patentable subject matter, Applicants respectfully submit that Claims 39, 43-44, 46-47, 51-53, and 57-59 are in proper condition for allowance and request that Claims 39, 43-44, 46-47, 51-53, and 57-59 may now be passed to allowance.

Rejection of Claims 40-41, 45, and 54-55 under 35 U.S.C. 103(a) as being unpatentable over Ogier et al., U.S. Patent No. 6,845,091 in view of Orava (U.S. Patent Application Publication 2002/0071477):

Applicants submit that Claims 40-41, 45, and 54-55 are allowable over the cited references based on their dependencies upon claims 39 and 52 which claims were shown to be allowable above.

Therefore, since Claims 40-41, 45, and 54-55 recite patentable subject matter, Applicants respectfully submit that Claims 40-41, 45, and 54-55 are in proper condition for allowance and request that Claims 40-41, 45, and 54-55 may now be passed to allowance.

Rejection of Claims 42 and 56 under 35 U.S.C. 103(a) as being unpatentable over Ogier et al in view of Susnow et al (U.S. Patent Application Publication 2002/0159385):

Applicants submit that Claims 42 and 56 are allowable over the cited references based on their dependencies upon claims 39 and 52 which claims were shown to be allowable above.

Further, applicant respectfully submits that Ogier et al in view of Susnow does not anticipate Applicant's invention as claimed in the further limitations of claims 42 and 56. Specifically, the credit system described by Susnow is a flow control mechanism to control the number of packets sent to an intermediate node by a source node [0048]. This number is dynamically updated as the intermediate node empties its buffers, allowing the source node to send more packets [0049]. This provides the intermediate node temporary relief when the source node sends more packets than can be handled, a form of congestion control.

Applicant's invention of claims 42 and 46 are an economic credit [0037] for helping in the multi-hop network. When the maximum credits are accumulated, the node stops helping in the network (changes from relaying to non-relaying). The node continues to participate in the network, it just doesn't help as a relay point for other nodes. This is not done to prevent inundation of the node, simply to limit the economic credit that can be received. Applicant respectfully submits that it would not be obvious to one of ordinary skill to extend the concept of flow control to economic credits. Plus, intermediate nodes in Susnow cannot completely stop relaying without breaking the network, it's only a temporary condition. In Applicant's network, a node can stop relaying and still participate in the network. Other nodes will simply find an alternate route. An economic credit system has no relation to flow control. The reason for economic credits is the

different goals for the network vs. the user. In a multi-hop network, relaying packets can be important to the network, but can be detrimental to a user, so the credits provide the economic incentive for a user to relay packets. The maximum value is present only to limit economic exposure by the network operator.

Therefore, since Claims 42 and 56 recite patentable subject matter, Applicants respectfully submit that Claims 42 and 56 are in proper condition for allowance and request that Claims 42 and 56 may now be passed to allowance.

Rejection of Claims 48-50 and 60-62 under 35 U.S.C. 103(a) as being unpatentable over Ogier et al in view of Larson et al (U.S. Patent No. 6,810,428):

Applicants submit that Claims 48-50 and 60-62 are allowable over the cited references based on their dependencies upon claims 39 and 52 which claims were shown to be allowable above.

Therefore, since Claims 48-50 and 60-62 recite patentable subject matter, Applicants respectfully submit that Claims 48-50 and 60-62 are in proper condition for allowance and request that Claims 48-50 and 60-62 may now be passed to allowance.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless Applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

The Applicants believe that the subject application, as amended, is in condition for allowance. Such action is earnestly solicited by the Applicants.

In the event that the Examiner deems the present application non-allowable, it is requested that the Examiner telephone the Applicant's attorney or agent at the number indicated below so that the prosecution of the present case may be advanced by the clarification of any continuing rejection.

The Commissioner is hereby authorized to charge Deposit Account 502117, Motorola, Inc, with any fees which may be required in the prosecution of this application.

Respectfully submitted,

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